

AMENDMENTS TO THE CLAIMS

This Listing of Claims replaces all prior versions, and listings, of claims in this application.

1. (Currently Amended) A device comprising:
 - a first device to track segment order associated with a first execution unit, the first device to identify and flush a segment that is subsequent to a switch point;
 - a second device to track segment order associated with a second execution unit; and
 - a third device coupled to the first device and second device to track relative segment order between the first device and the second device by storing data for a set of switch points in the third device, the data indicating a transition in consecutive segment assignment from the first device to the second device, the third device to identify, based on the data for the set of switch points stored in the third device, ~~a~~ the switch point from the set of switch points that is associated with an instruction occurring after a mispredicted instruction.
2. (Previously Presented) The device of claim 1, wherein the first device is operable to notify the third device of a mispredicted instruction in a segment, and
wherein the first device is operable to flush a first segment.
3. (Previously Presented) The device of claim 2, wherein the third device is operable to notify the second device of the mispredicted instruction in the segment, and
wherein the second device is operable to flush a second segment.
4. (Previously Presented) The device of claim 2, wherein the third device is operable to notify the first device of the mispredicted instruction in the segment, and
wherein the first device is operable to flush a third segment.
5. (Previously Presented) The device of claim 1, further comprising:
 - a fetch control unit to predict segment order, fetch segments and assign the segments to one of the first device and the second device during a flush operation.
6. (Currently Amended) A method comprising:

tracking the program order of a first set of instructions assigned to a first local reorder buffer in a first execution unit;

tracking the program order of a second set of instructions assigned to a second local reorder buffer in a second execution unit;

tracking program order of the first set of instructions relative to the second set of instructions in a global reorder buffer by storing data for a set of switch points in the global reorder buffer, the data indicating a transition in assignment of consecutive sets of instructions from the first local reorder buffer to the second local reorder buffer; and

identifying, based on the data for the set of switch points stored in the global reorder buffer, a switch point from the set of switch points that is associated with an instruction occurring after a mispredicted instruction; and

identifying and flushing an instruction in the first set of instructions that is subsequent to the switch point.

7. (Previously Presented) The method of claim 6, further comprising:
notifying the global reorder buffer when a mispredicted instruction occurs;
initiating a flush operation in the global reorder buffer; and
notifying the first local reorder buffer of the mispredicted instruction.
8. (Original) The method of claim 7, further comprising:
notifying a fetch control unit of a mispredicted set of instructions.
9. (Original) The method of claim 6, further comprising:
sending a signal to the second local reorder buffer to flush at least a third set of instructions.
10. (Original) The method of claim 6, further comprising:
fetching a fourth set of instructions; and
assigning the fourth set of instruction to the first reorder buffer during a flushing operation.
11. (Original) The method of claim 6, further comprising:
retiring an instruction according to an indicator stored in the global reorder buffer.

12. (Currently Amended) A system comprising:
- a bus;
 - a memory device coupled to the bus; and
 - a processor including a fetch control unit to fetch instructions from the memory device, a first execution unit to process one or more of the fetched instructions, a second execution unit to process one or more of the fetched instructions, a first reorder buffer to track instructions assigned to the first execution unit and to identify and flush a segment that is subsequent to a switch point, a second reorder buffer to track instructions assigned to the second execution unit, and a global reorder buffer to track instruction order of instructions assigned to the first reorder buffer relative to the second reorder buffer by storing data for a set of switch points in the global reorder buffer, the data indicating a transition in assignment of consecutive sets of instructions from the first reorder buffer to the second reorder buffer, the global reorder buffer to identify, based on the data for the set of switch points stored in the global reorder buffer, a~~the~~ switch point from the set of switch points that is associated with an instruction occurring after a mispredicted instruction.
13. (Original) The system of claim 12, wherein the first reorder buffer is operable to signal the global reorder buffer upon detection of a mispredicted instruction.
14. (Original) The system of claim 12, wherein the first reorder buffer is operable to flush a first set of instructions upon detection of a mispredicted instruction, and
- wherein the fetch control unit assigns a second set of instructions to the first reorder buffer based on a set of load balancing criteria.
15. (Currently Amended) A computer readable storage medium having stored therein instructions, which when executed cause a machine to perform a set of operations comprising:
- tracking the program order of a first set of instructions assigned to a first local tracking device in a first execution unit;
 - tracking the program order of a second set of instructions assigned to a second local tracking device in a second execution unit;
 - tracking program order of the first set of instructions relative to the second set of instructions in a global tracking device by storing data for a set of switch points in the global

tracking device, the data indicating a transition in assignment of consecutive sets of instructions from the first local tracking device to the second local tracking device; ~~and~~

identifying, based on the data for the set of switch points stored in the global tracking device, a switch point from the set of switch points that is associated with an instruction occurring after a mispredicted instruction; and

identifying and flushing an instruction in the first set of instructions that is subsequent to the switch point.

16. (Previously Presented) The computer readable storage medium of claim 15, having further instructions stored therein which when executed cause a machine to perform a set of operations further comprising:

notifying the global tracking device when a mispredicted instruction occurs.

17. (Previously Presented) The computer readable storage medium of claim 16, having further instructions stored therein which when executed cause a machine to perform a set of operations further comprising:

tracking a first set of switch points in the global tracking device.

18. (Previously Presented) The computer readable storage medium of claim 16, having further instructions stored therein which when executed cause a machine to perform a set of operations further comprising:

flushing a second set of switch points based on the mispredicted instruction.

19. (Currently Amended) An apparatus comprising:

a means for tracking the program order of a first set of instructions assigned to a first local tracking device in a first execution unit;

a means for tracking the program order of a second set of instructions assigned to a second local tracking device in a second execution unit;

a means for tracking program order of the first set of instructions relative to the second set of instructions in a global tracking device by storing data for a set of switch points in the global tracking device, the data indicating a transition in assignment of consecutive sets of instructions from the first local tracking device to the second local tracking device; ~~and~~

a means for identifying, based on the data for the set of switch points stored in the global tracking device, a switch point from the set of switch points that is associated with an instruction occurring after a mispredicted instruction; and

a means for identifying and flushing an instruction in the first set of instructions that is subsequent to the switch point.

20. (Original) The apparatus of claim 19, further comprising:

a means for notifying the global tracking device when a mispredicted instruction occurs.

21. (Original) The apparatus of claim 19, further comprising:

a means for flushing at least a third set of instructions in the first local tracking device.

22-26. (Canceled)

27. (New) The device of claim 1, wherein the first device maintains a segment preceding the mispredicted instruction in response to a remote flush operation received from the third device.

28. (New) The method of claim 6, further comprising:

maintaining a segment preceding the mispredicted instruction in response to a remote flush operation received from the global reorder buffer.

29. (New) The system of claim 12, wherein the first device maintains a segment preceding the mispredicted instruction in response to a remote flush operation received from the global reorder buffer.

30. (New) The computer readable storage medium of claim 15, further comprising:

maintaining a segment preceding the mispredicted instruction in response to a remote flush operation received from the global tracking device.

31. (New) The apparatus of claim 19, further comprising:

a means for maintaining a segment preceding the mispredicted instruction in response to a remote flush operation received from the global tracking device.